

(b) In the claims

Cancel claims 1-9.

23. (NEW) A battery separator comprising a microporous membrane having a thickness of 5 to 175 μ m, a porosity of between 30% and 95%, and an air permeability of between 1 sec/10cc and 100 sec/10cc, said microporous membrane comprised of between 70% and 95% a ultra high molecular weight polyolefin having a minimum average molecular weight of 1×10^6 , and between 5% and 30% a TiO₂ particulate filler with an average particle size diameter of between 0.001 μ m and 1 μ m.

24. (NEW) A battery separator comprising a microporous membrane having a thickness of 5 to 175 μ m, a porosity of between 30% and 95%, and an air permeability of between 1 sec/10cc and 100 sec/10cc, said microporous membrane comprising a blend of between 70% and 95% of two polyethylene polymers (consisting of between 3% and 20 weight % of an ultra high molecular weight polyethylene polymer having an average molecular weight of 2×10^6 or higher and between 80% and 95 % of polyethylene polymer having an average molecular weight of 1×10^6 or lower), and 5% to 30% of a TiO₂ particulate filler with an average particle size diameter of between 0.001 μ m and 1 μ m.

25. (NEW) A battery separator comprising a microporous membrane having a thickness of 5 to 175 μ m, a porosity of between 30% and 95%, and an air permeability of between 1 sec/10cc and 100 sec/10cc, said microporous membrane comprised between 70% to 95 weight % mixture of two polyethylene polymers (consisting of between 30% and 90 weight % ultra high molecular weight polyethylene having an average molecular weight of 1×10^6 or higher and between 10% and 50 % low molecular weight polyethylene

having an average molecular weight of 4,500 or lower), and between 5% and 30% a TiO₂ particulate filler with an average particle size diameter of between 0.001 μm and 1 μm.

26. (NEW) The battery separator in accordance with claims 23, or 24, or 25, having melt integrity of 165°C or more.

27. (NEW) The battery separator in accordance with claims 23, or 24, or 25, and further having a shutdown temperature of 130 °C plus or minus 20°C.

28. (NEW) The battery separator in accordance with claims 23, or 24, or 25, and further having a puncture resistance of more than 300 grams/25μm.

29. (NEW) The battery separator in accordance with claims 23, or 24, or 25, and further having a thermal shrinkage of 10% or less both in the machine and transverse directions.

30. (NEW) The battery separator in accordance with claims 23, or 24, or 25, wherein said separator is used in a battery containing a non-aqueous (organic) electrolyte solution.

31. (NEW) A membrane in accordance with claims 23, or 24, or 25, wherein said membrane comprises a surface, and said surface is treated with a substance chosen from the group consisting of (a) a wetting agent and (b) a hydrophilic grafting agent.

32. (NEW) A battery separator in accordance with claim 23 wherein said separator has an average pore diameter of between 0.01μm and 1 μm.

33. (NEW) A battery separator in accordance with claim 24 wherein said separator has an average pore diameter of between 0.01μm and 2 μm.

34. (NEW) A battery separator in accordance with claim 25 wherein said separator has an average pore diameter of between 0.01μm and 2 μm.

35. (NEW) A battery which comprises the battery separator in accordance with claims 23, or 24, or 25.

36. (NEW) A filter which comprises the battery separator in accordance with claims 23, or 24, or 25, or 31.